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Examiner's Detailed Office Action

1. This Office Action is responsive to communication, filed on December 23rd, 2008.

Claims 1, 2, 6 – 8, 12 – 15 and 19 – 21 are allowed.

Therein Claims 3 – 5, 9 – 11, 16 – 18 and 22 – 24 have been cancelled.

Examiner's Amendment

2. On Tuesday, December 30, 2008, applicant's representative i.e., Tod A. Kupstas, Reg. No. 54,917, authorized examiner to amend the following claims by way of Examiner's Amendment responsive to the examiner's requirements. An Interview summary has been included.

1. (Currently amended) A system for the automation of one or more of the design, assembly and packaging of optoelectronic devices comprising:

(a) an automated manipulation device configured for the manipulation of an optoelectronic device component;

(b) ~~a knowledge based model~~ an optical power propagation model derived using a formula and ~~from~~ a set of one or more parameters for said optoelectronic device; wherein the ~~knowledge based model~~ formula is selected from ~~is derived using~~ one or more of a Rayleigh-Sommerfeld formulation, an angular spectrum solution to a Rayleigh-Sommerfeld formulation, a Ray formulation, a Gaussian formulation, a Fraunhofer Field Formulation, a Fresenel Field formulation, and vector solutions to Maxwell's equations;

(c) a database for storing said ~~knowledge based model~~ optical power propagation model;

(d) a measuring device for taking a measurement of one or more parameters of at least one component of said optoelectronic device; and

(e) a controller for managing said automated manipulation device, said controller enabled to receive information from said database; wherein said controller comprises an initial set point device which utilizes said ~~knowledge based model~~ optical power propagation model to determine an initial set point for said automated manipulation device, and a servo-feedback loop which utilizes said measurement of one or more parameters of at least one component of said optoelectronic device to determine a manipulation of at least one component of said optoelectronic device.

2. (Original) A system according to claim 1, wherein said one or more parameters comprises one or more parameters selected from the group consisting of optical waveform characteristics and optical waveform features.

3. (Canceled)

4. (Canceled)

5. (Canceled)

6. (Currently amended) A system according to claim ~~5~~ 1, wherein ~~the optical power propagation model is derived using a~~ the formula is selected from the group consisting of a Rayleigh Sommerfeld formulation and an angular spectrum solution to a Rayleigh Sommerfeld formulation.

7. (Currently amended) A system according to claim 1, further comprising a learning loop which makes adjustments to said ~~knowledge based model~~ optical power

propagation model based on actual experience in one or more of the design, assembly, packaging, use and maintenance of said optoelectronic device.

8. (Original) A system according to claim 7, wherein said set of parameters comprises one or more parameters selected from the group consisting of optical waveform characteristics and optical waveform features.

9. (Canceled).

10. (Canceled)

11. (Canceled)

12. (Currently amended) A system according to claim ~~11~~ 1, wherein ~~the optical power propagation model is derived using a~~ the formula is selected from the group consisting of a Rayleigh Sommerfeld formulation and an angular spectrum solution to a Rayleigh Sommerfeld formulation.

13. (Currently amended) A system as claimed in claim ~~10~~ 1, wherein at least one said measurement is employed by said learning loop in the adjustment of said ~~knowledge based model~~ optical power propagation model.

14. (Currently amended) An automated method for one or more of the assembly and packaging of optoelectronic devices comprising the steps of:

(a) providing an automated manipulation device configured for the manipulation of an optoelectronic device component;

(b) determining an initial set point for said automated manipulation device from ~~a knowledge based model~~ an optical power propagation model; wherein the ~~knowledge based model~~ optical power propagation model is derived using a formula, wherein the formula is selected from one or more of a Rayleigh-

Sommerfeld formulation, an angular spectrum solution to a Rayleigh-Sommerfeld formulation, a Ray formulation, a Gaussian formulation, a Fraunhofer Field Formulation, a Fresenel Field formulation, and vector solutions to Maxwell's equations;

(c) positioning said automated manipulation device at said set point;

(d) measuring at least one parameter of a component of the optoelectronic device;

(e) adjusting the position of said automated manipulation device based on said measurement; and

(f) repeating steps (d)-(e) until said optoelectronic device is assembled, packaged or assembled and packaged.

15. (Original) A method according to claim 14, wherein said at least one parameter comprises one or more parameters selected from the group consisting of optical waveform characteristics and optical waveform features.

16. (Canceled)

17. (Canceled)

18. (Canceled).

19. (Currently amended) A method according to claim ~~18~~ 14, wherein ~~the optical power propagation model is derived using a~~ the formula is selected from the group consisting of a Rayleigh Sommerfeld formulation and an angular spectrum solution to a Rayleigh Sommerfeld formulation.

20. (Currently amended) A method according to claim 19, further comprising a learning loop which makes adjustments to said ~~knowledge based model~~ optical power

propagation model based on actual experience in one or more of the design, assembly, packaging, use and maintenance of said optoelectronic device.

21. (Original) A method according to claim 20, wherein said set of parameters comprises one or more parameters selected from the group consisting of optical waveform characteristics and optical waveform features.

22. (Canceled)

23. (Canceled)

24. (Canceled)

REASON FOR ALLOWANCE

3. The following is an Examiner's statement for reason for allowance:

4. Claims 1, 2, 6 – 8, 12 – 15 and 19 – 21 are considered allowable since when reading the claims in light of specification and corresponsive arguments in amendment filed on December 23rd, 2008 (Note: the model, "optical power propagation model", has been defined in specification, page 9, line 9 – page 10, line 37 which specifically restricted from other knowledge based model), as per MPEP 2111.01, none of the prior art of record teach or render obvious applicant's claimed invention. In particular, as pointed out below, the art lacks certain features and the combination as specified in the respective claim(s).

5. The features recited in claim 1, "a system for the automation of one or more of the design, assembly and packaging of optoelectronic devices comprising: … manipulation of an

optoelectronic device component; an optical power propagation model derived using a formula and from a set of one or more parameters for said optoelectronic device; wherein the formula is selected from one or more of a Rayleigh-Sommerfeld formulation, an angular spectrum solution to a Rayleigh-Sommerfeld formulation, a Ray formulation, a Gaussian formulation, a Fraunhofer Field Formulation, a Fresenel Field formulation, and vector solutions to Maxwell's equations; a database for storing said optical power propagation model; a measuring device for taking a measurement of one or more parameters of at least one component of said optoelectronic device; and a controller for managing said automated manipulation device, said controller enabled to receive information from said database; wherein said controller comprises an initial set point device which utilizes said optical power propagation model to determine an initial set point for said automated manipulation device, and a servo-feedback loop which utilizes said measurement of one or more parameters of at least one component of said optoelectronic device to determine a manipulation of at least one component of said optoelectronic device".

6. The features recited in claim 14, "an automated method for one or more of the assembly and packaging of optoelectronic devices comprising the steps of: … manipulation of an optoelectronic device component; determining an initial set point for said automated manipulation device from an optical power propagation model; wherein the optical power propagation model is derived using a formula, wherein the formula is selected from one or more of a Rayleigh-Sommerfeld formulation, an angular spectrum solution to a Rayleigh-Sommerfeld formulation, a Ray formulation, a Gaussian formulation, a Fraunhofer Field Formulation, a Fresenel Field formulation, and vector solutions to Maxwell's equations; positioning said

automated manipulation device at said set point; measuring at least one parameter of a component of the optoelectronic device; adjusting the position of said automated manipulation device based on said measurement; and repeating steps (d)-(e) until said optoelectronic device is assembled, packaged or assembled and packaged".

7. As mentioned above, the art lacks certain features and the combination when taken in context of the claim(s) as a whole, was not uncovered in the prior art. Moreover, the dependent claims 2, 6 – 8, 12, 13, 15 and 19 – 21 are allowed as they depend upon an allowable independent claim(s).

8. Any comments considered necessary by applicant must be submitted no later that the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments regarding Statement of Reason for Allowance".

Correspondence Information

9. Any inquires concerning this communication or earlier communications from the examiner should be directed to Sunray Chang, who may be reached Monday through Friday, between 6:00 a.m. and 3:00 p.m. EST. or via telephone at (571) 272-3682 or facsimile transmission (571) 273-3682 or email sunray.chang@uspto.gov.

If you need to send an Official facsimile transmission, please send it to (571) 273-8300.

If attempts to reach the examiner are unsuccessful in the regular office hour, the Examiner's Supervisor, Albert Decady, may be reached at (571) 272-3819.

Hand-delivered responses should be delivered to the Receptionist @ (Customer Service Window Randolph Building 401 Dulany Street Alexandria, VA 22313), located on the first floor of the south side of the Randolph Building.

Finally, information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Moreover, status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) toll-free @ 1-866-217-9197.

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